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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.      | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------|------------------|
| 10/774,799   | 02/09/2004  | Perry Scott Lorenz   | 08211/0200372-US0/P05790 | 9070             |
| 38845  | 7590        | 10/27/2009           | EXAMINER                 |                  |
| Darby/National Semiconductor Corporation<br>c/o DARBY & DARBY P.C.<br>P.O. BOX 770<br>Church Street Station<br>NEW YORK, NY 10008-0770 |             |                      | ALMO, KHAREEM E          |                  |
|  |             |                      | ART UNIT                 | PAPER NUMBER     |
|  |             |                      | 2816                     |                  |
|  |             |                      | MAIL DATE                | DELIVERY MODE    |
|  |             |                      | 10/27/2009               | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/774,799             | LORENZ, PERRY SCOTT |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | KHAREEM E. ALMO        | 2816                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 21 September 2009.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-34 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-34 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 25 June 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on \*\*\* has been entered.

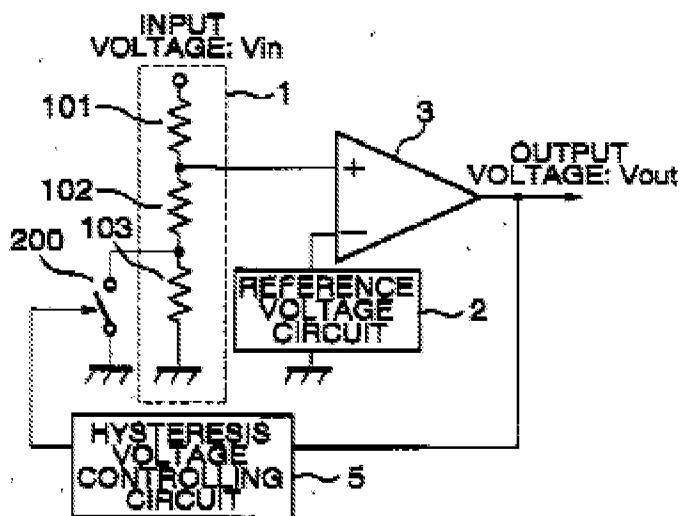
### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

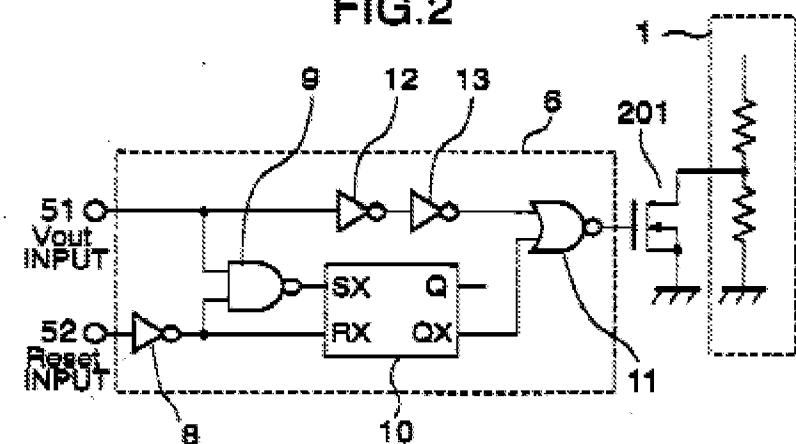
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura (US 20040174206) in view of La Rosa (US 6897689) .

FIG. 1



**FIG.2**



With respect to claim 1, figure 1 and 2 of Matsumura (US 6163183) discloses a circuit for temperature sensing, comprising: a comparator circuit (3 of fig 1) that is arranged to provide a trigger signal by comparing a reference signal (2) to a temperature sensor signal (1); a gate circuit (201 of fig 2 or 200 of fig 1) that is arranged to provide an output signal ( $V_{out}$ ) by gating a gate input signal ( $V_{in}$ ) subject to control

by a gate Control signal (from 5 fig 1 or from 6 fig 2), wherein the gate input signal is based at least in part on the trigger signal (51 fig 2), and wherein the gate control signal is based at least in part on a power-on-reset signal (52 of fig 2); and a hysteresis-and-output-sensor circuit (5 fig 1 or 6 fig 2) that is configured to control the reference signal in response to a sensed signal, wherein the sensed signal is based at least in part on the output signal (Vout), and wherein the hysteresis-and-output sensor circuit is arranged to disable a hysteresis at power up but fails to disclose a power-on-reset generator that is arranged to provide a power-on reset signal.

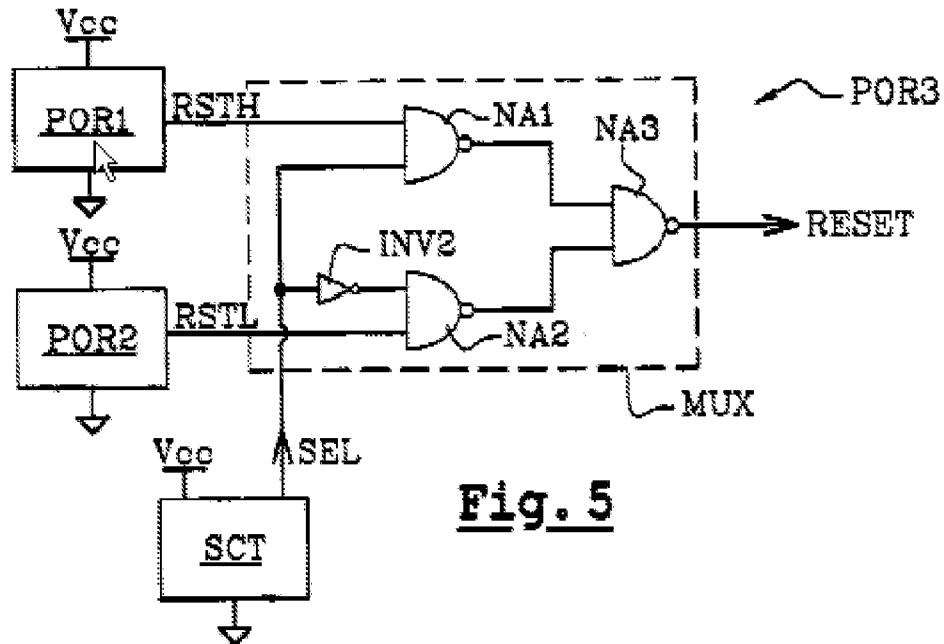


Figure 5 of La Rosa (US 6897689) discloses a POR circuit to generate a reset signal. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the POR reset circuit of Rosa in the Voltage detecting

circuit of Matsumura for the purpose of incorporating a POR circuit into an integrated circuit that can receive different supply voltages.

With respect to claim 2, the combination above produces the circuit of Claim 1, wherein the power-on-reset (Fig 5 of La Rosa) signal is the gate control signal.

With respect to claim 3, the combination above discloses the circuit of Claim 1, further comprising: a timer circuit (SCT) that is configured to provide a mute signal in response to the power-on-reset signal (POR3), wherein the mute signal is the gate control signal.

With respect to claim 4, the combination above discloses the circuit of Claim 3, wherein the timer circuit (SCT) includes a one-shot timer circuit (L1) that generates the reset signal (POR) wherein the one-shot timer circuit is configured to provide the mute signal such that the gate control signal such that the mute signal corresponds to an active logic level when a power supply signal is applied to the circuit, and for a pre-determined period of time thereafter; and such that the mute signal corresponds to an inactive level after the pre- determined period of time.

With respect to claim 5, the combination above discloses the circuit of Claim 1, wherein the sensed signal is the output signal (Vout via 1), and wherein the gate input signal is the trigger signal (from Vout).

With respect to claim 6, the combination above discloses the circuit of Claim 1, wherein the gate circuit is configured to provide the output signal such that a logic level of the output signal (Vout) corresponds to a logic level of the trigger signal (51) if the gate control signal corresponds to an inactive level, and the logical level of the output

signal (Vout) corresponds to a first logic level if the gate control signal corresponds to an active level.

With respect to claim 7, the combination above discloses the circuit of Claim 1, wherein the gate circuit includes an AND gate (9).

With respect to claim 8, the combination above discloses the circuit of Claim 1, wherein the comparator circuit (3) is configured to provide the trigger signal such that the trigger signal corresponds to a first logic level if a voltage associated with the reference signal is greater than a voltage associated with the temperature sensor signal (Vin from 1), and the trigger corresponds to a second logic level if the voltage associated with the reference signal is less than the temperature sensor signal (at 1).

With respect to claim 9, the combination above discloses the circuit of Claim 1, further comprising: a reference circuit (2) that is configured to provide the reference signal in conjunction with the hysteresis-and-output-sensor circuit (5), wherein the hysteresis-and-output-sensor circuit is arranged to modify the reference signal (output of the comparator is viewed as the modified reference signal) if the hysteresis-and-output-sensor circuit is enabled, and wherein the hysteresis-and-output-sensor circuit is disabled if the output signal corresponds to a first logic level.

With respect to claim 10, the combination above discloses the circuit of Claim 9, but fails to discloses the details of the reference circuit. It is well known in the art to use a voltage source coupled to a variable resistor to produce a reference signal. It would have been obvious at the time to use the voltage source of Masumura coupled to a variable resistor for the purpose of adjusting the voltage reference. The resulting

combination would produce wherein the reference circuit includes: a resistor (variable resistor) that is coupled to the hysteresis-and-output-sensor circuit (via the voltage source) and the comparator circuit (via voltage source); and a current source circuit (variable resistor (voltage through a resistor is a current source) that is configured to provide a current to the resistor.

With respect to claim 11, the first combination above discloses the circuit of Claim 10, wherein the hysteresis-and-output-sensor circuit (5) is configured to provide a hysteresis current to the resistor (in 1) if the output signal corresponds to the second logic level.

With respect to claim 12, the second combination above discloses the circuit of Claim 10, wherein a resistance that is associated with the resistor (variable resistor) is adjustable.

With respect to claim 13, combination above discloses a method for temperature sensing, comprising: employing a circuit to activate hysteresis (5) if a temperature-sensing condition has occurred; and ensuring that the hysteresis is automatically inactive (via La Rosa) when the circuit is powering up.

With respect to claim 14, the combination above discloses the method of Claim 13, further comprising providing a reference signal (2), wherein activating the hysteresis includes modifying the reference signal (via 3), and wherein the hysteresis is active if the output signal corresponds to a first logic level.

With respect to claim 15, the combination above discloses the method of Claim 13, wherein ensuring includes providing an output signal (Vout) in response to a gate

input signal (201) and a gate control signal (at gate), wherein the gate control signal is derived from a power-on-reset signal (POR3), a logic level of the output signal (from 5) corresponds to a logic level of the gate input signal (at 201) if the gate control signal corresponds to an inactive level, and the logical level of the output signal corresponds to a first logic level if the gate control signal corresponds to an active level.

With respect to claim 16, the combination above discloses the method of Claim 15, further comprising: comparing a temperature sensor signal (from 1) to a reference signal (2); and providing a trigger signal in response to the comparison, wherein the gate input signal is based at least in part on the trigger signal (via feedback).

With respect to claim 17, the combination above discloses the method of Claim 15, wherein providing the output signal includes performing a logical AND function (via 9) on the gate input signal (51) and the gate control signal (52).

With respect to claim 18, the combination above discloses the method of Claim 15, further comprising: applying a power supply signal; and providing the gate control signal in response to the power-on-reset signal (POR3), wherein providing the gate control signal (at input to 201) includes: providing the gate control signal such that the gate control signal corresponds to an active logic level when the power supply signal is initially applied, and for a pre-determined period of time thereafter; and providing the gate control signal such that the gate control signal corresponds to an inactive level after the pre-determined period of time.

With respect to claim 19, the second combination above discloses the method of

Claim 15, further comprising: providing a first current (voltage through resistor); and converting a reference current into the reference signal (via variable resistor), wherein activating the hysteresis includes: providing a hysteresis current if the output signal corresponds to a first logic level; providing substantially no current if the output signal corresponds to a second logic level; and providing the reference current by combining the first current and the hysteresis current.

With respect to claim 20, combination above discloses a circuit for temperature sensing, comprising: means for activating hysteresis (5) if a temperature-sensing condition has occurred; and means for ensuring that the hysteresis is automatically inactive when the means for activating hysteresis is powering up (La Rosa).

With respect to claim 21, the combination above discloses the circuit of claim 22, wherein the circuit for temperature sensing is arranged such that the comparator circuit (3) trips when the temperature sensed by the temperature sensor signal (Vin at 1) reaches a predetermined level, and wherein the predetermined level is modified by a predetermined amount when hysteresis is enabled.

With respect to claim 22, , the combination above discloses a circuit for temperature sensing, comprising: a comparator circuit (3) that is arranged to provide a trigger signal by comparing a reference signal to a temperature sensor signal; a gate circuit (201) that is arranged to provide an output signal by gating a gate input signal subject to control by a gate control signal, wherein the gate input signal is based at least in part on the trigger signal, and wherein the gate control signal is based at least in part on a power-on-reset signal (POR3); a hysteresis-and-output sensor circuit (5) that is

configured to control the reference signal in response to a sensed signal, wherein the sensed signal is based at least in part on the output signal; and a temperature sensor signal generation circuit, wherein the temperature sensor signal generation circuit is arranged to provide the temperature sensor signal such that the temperature sensor signal is indicative of a temperature.

With respect to claim 23, the combination above discloses the circuit of claim 22, wherein the temperature sensor signal ( $V_{in}$ ) is proportional to a temperature.

With respect to claim 24, the combination above discloses wherein the comparator circuit (3) compares the temperature sensor signal ( $V_{in}$ ) to the reference signal (2) in order to perform a temperature comparison.

With respect to claim 25 the combination above discloses the circuit of claim 24 wherein the hysteresis and output sensor circuit (5) is arranged to provide hysteresis in a range but fails to disclose a range of about 2°C to about 10°C of hysteresis for the temperature comparison when the hysteresis is enabled. It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the hysteresis and output sensor circuit to provide hysteresis in the 2°C to about 10°C of hysteresis for the temperature comparison when the hysteresis is enabled, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves routine skill in the art. (See *In re Aller*, 105 USPQ 233.)

With respect to claim 26, this is deemed intended use, because no structural difference would be apparent.

With respect to claim 27, the combination above discloses the circuit of claim 13, wherein ensuring that the hysteresis is automatically inactive when the circuit is powering up is accomplished by disabling the hysteresis until the power up is complete (via La Rosa).

With respect to claims 28-30, this is deemed intended use, because no structural difference would be apparent.

With respect to claim 31, the combination above discloses the method of claim 16, wherein the temperature sensor signal is indicative of a temperature.

With respect to claim 32, the combination above discloses the method of claim 16, wherein the temperature sensor signal is proportional to temperature.

With respect to claim 33, the combination above discloses the method of claim 13, wherein the temperature sensing condition is a temperature comparison in which a determination is made as to whether a temperature has reached a predetermined level, wherein the predetermined level is modified by a predetermined amount when hysteresis is enabled.

With respect to claim 34, the third combination above discloses the method of claim 33, wherein the hysteresis is hysteresis in a range of about 2°C to about 10°C of hysteresis for the temperature comparison when hysteresis is enabled.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAREEM E. ALMO whose telephone number is (571)272-5524. The examiner can normally be reached on Mon-Fri (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-1736. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Khareem E Almo/  
Examiner, Art Unit 2816  
/Lincoln Donovan/  
Supervisory Patent Examiner, Art Unit 2816